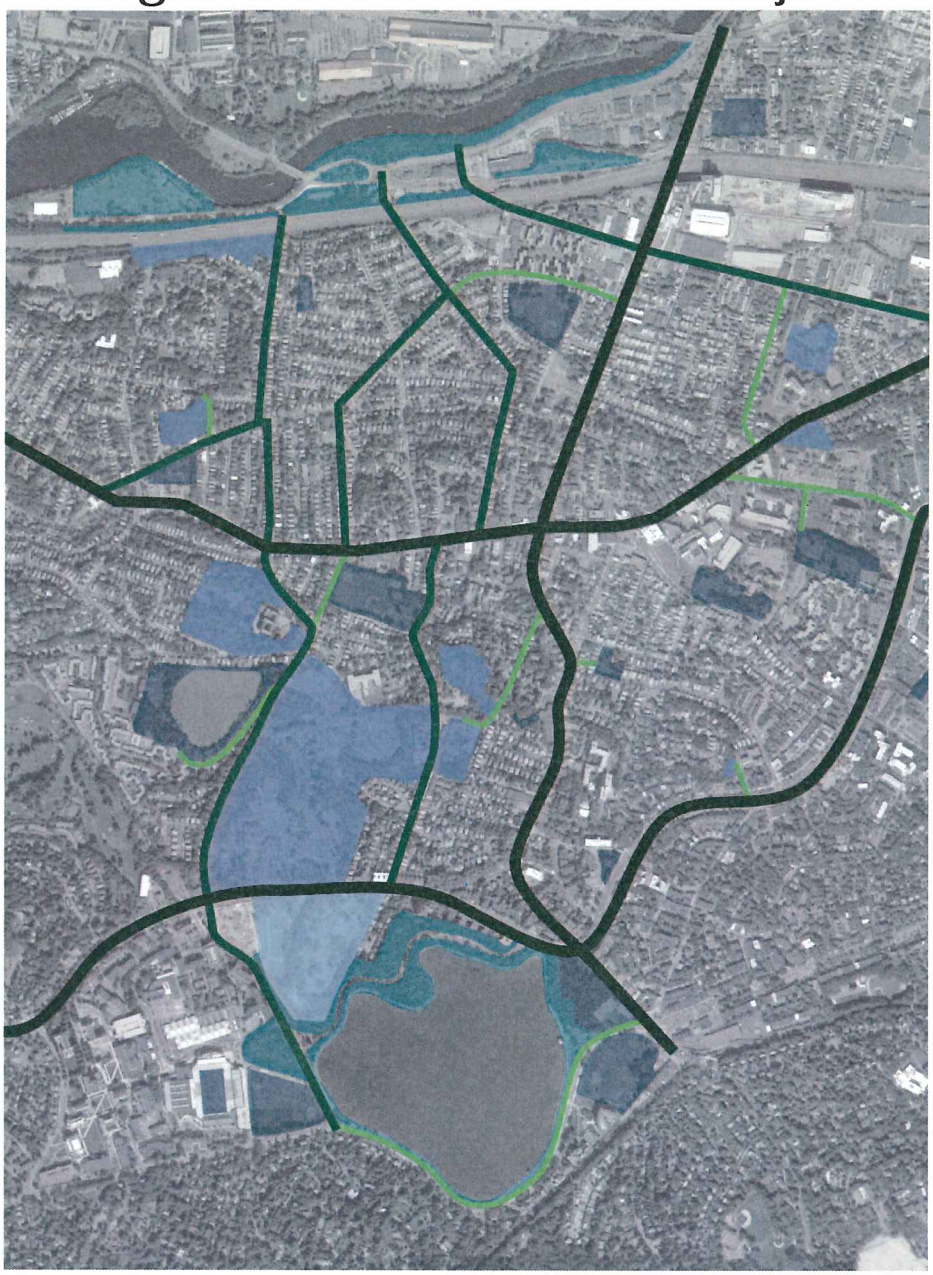
Brighton Green Links Pilot Project



Charles River Watershed Association
190 Park Road
Weston, MA 02493
781-788-007
www.crwa.org

Primary contact
Name: Pallavi Mande, CRWA
Phone number: 781-788-0007
Email: pmande@crwa.org

Boston College Neighborhood Improvement Fund

For Brighton and Allston

Application for Funding, Spring 2015

Total Amount Requested $ **45,000**

Applicant Organization Name: Charles River Watershed Association

Organization Address: 190 Park Road City: Weston Zip: 02493

Contact Person: Pallavi Mande

Title: Director of Blue Cities

Telephone Number: 781-788-0007

E-Mail Address: pmande@crwa.org

Is Applicant a 501(C) (3) organization? Yes x No _____

Federal Employer Identification Number: 04-6136989

Executive Director: Robert L. Zimmerman, Jr. Phone Number: 781-788-0007

Email Address: rzimmerman@crwa.org

Board President: Tom Sieniewicz Phone Number: 617-354-5315

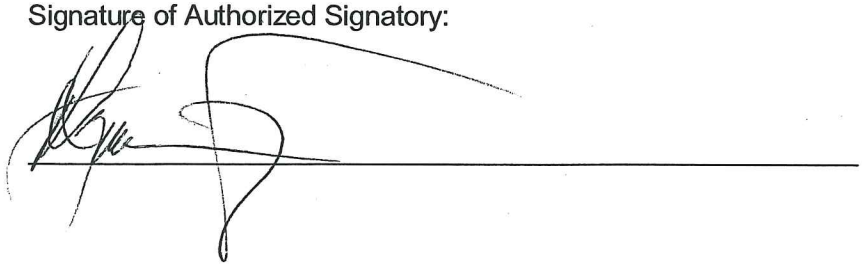
Email Address: tsieniewicz@nbbj.com

Application submission(s) must be authorized and signed by an authorized signatory of the Organization.

Name and title of Authorized Signatory:

Robert L. Zimmerman, Jr, Executive Director

Signature of Authorized Signatory:



Applicant Information

1. Key personnel involved in the project.

Name	Affiliation	Title
Ms. Pallavi Mande	CRWA	Director of Blue Cities
Ms. Charlotte Fleetwood	BTD (Boston GreenLinks)	Transportation Planner
Ms. Amber Christoffersen	Livable Streets Alliance	Project Manager

2. Partner organizations/property owners to be involved in project.

We anticipate collaborating with the following organizations as partners in the fully-phased project:

- City of Boston Transportation Department (Partner Applicant Organization)
- City of Boston Parks Department
- Boston Water and Sewer Commission
- City of Boston Department of Public Works
- Massachusetts Department of Conservation and Recreation
- Livable Streets Alliance
- Chandler Pond Preservation Society

3. If applicant is a non-profit organization, provide qualifications and prior history of executing similar projects.

Charles River Watershed Association (CRWA) has worked closely with environmental regulators, municipal officials, and town residents to improve management of the Charles River and surrounding landscape for 50 years. CRWA uses science, law, planning and grassroots organizing to change the way in which water resources are managed at a variety of scales, and in a variety of settings. Our initiatives focus on water quality and quantity, restoring natural hydrology and streamflow, monitoring, fisheries restoration, and urban redevelopment. CRWA has evolved into one of the most influential watershed organizations in the country with our work now internationally recognized through the award of the International River*prize* in 2011. Our accomplished staff includes environmental scientists, an engineer, an urban designer and an attorney. Please refer to Attachment A for qualifications and prior history of executing similar projects.

Staff Qualifications and Project Experience

Pallavi Mande directs CRWA's Blue Cities Initiative, which includes planning, design and implementation of green infrastructure retrofit projects. Ms. Mande has more than 15 years of experience in urban design and environmental planning and has worked on inner city neighborhood revitalization in cities all over the U.S. Through our Blue Cities Initiative, CRWA has gained considerable experience with low impact development stormwater treatment practices, including rain gardens, porous pavements, stormwater tree pits and planters. Most

recently, Ms. Mande served as project manager for Boston's Porous/Green Alley project, a porous pavement demonstration project in Boston's south end neighborhood.

Allston-Bridgeton Green Streets Guidelines
In 2007, CRWA partnered with the Allston-Brighton Community Development Corporation to develop a Green Streets Guide for Allston-Brighton through extensive collaboration with neighborhood residents. By conducting community workshops for three pilot streets, the design guidelines provided a catalogue of green street retrofits intended to improve streets for pedestrians and bicyclists, while also making public parks more accessible, and improving water quality in the Charles River by treating stormwater runoff. For more details on the project refer to Attachment A and http://www.crwa.org/blue-cities/community-collaboration

Everett Street Greening Demonstration Project
In February of 2008, CRWA was awarded an Urban Forestry Challenge Grant by Massachusetts Department of Conservation and Recreation (DCR) to develop the design for a Green Street demonstration project along a section of Everett Street in Allston. The project involved designing a system of green infrastructure to maximize the use of street tree cover for stormwater interception as well as temperature and air quality improvement. This project was meant to create public awareness around the connection between green infrastructure, stormwater management and ultimately water quality.

CRWA partnered with the Allston Brighton Community Development Corporation (CDC) and coordinated with the Boston Urban Forestry Coalition (BUFC) to promote the varied benefits of urban forestry including community building, water quality improvements and urban canopy enhancement. Further, by retrofitting a site that was originally 100% impervious with innovative Low Impact Developments (LID) Best Management Practices (BMPs), the project offers an opportunity to combine stormwater management goals, such as runoff reduction and water quality improvement with community goals for landscape improvements and public education on green infrastructure. The project design was completed in December 2008 and constructed in 2010. For more details on the project refer to Attachment A and http://www.crwa.org/blue-cities/demonstration-projects/everett-street-pilot

Peabody Square Green Street Pilot
Green Streets are those designed to incorporate innovative stormwater management techniques, including Low Impact Development (LID) stormwater Best Management Practices (BMPs), into the street right-of-way to collect and treat stormwater runoff that is generated from sidewalks, roadways and other impervious surfaces. The City of Boston Environment Department (BED) and CRWA were awarded a 604(b) grant by the MassDEP in July, 2007, to undertake an innovative pilot project to assess the potential stormwater management and recharge benefits of a Green Street. BED and CRWA selected Peabody Square as a potential site for a pilot project and began work to assess the feasibility of including Green Street designs into an existing plan to redevelop the streetscape.

CRWA worked closely with the Boston Transportation Department (BTD), the Department of Public Works (DPW) and its consultant Nitsch Engineering Inc. to advance the Green Street design for Peabody Square, based upon the results of our assessment and recommended Best Management Practices (BMP's). CRWA participated in numerous meetings with representatives from BTD, DPW, BED, Parks Department, and community organizations including the St. Mark's Area Main Streets throughout the design process and to discuss long-term maintenance issues. The design was completed in 2010 and the project was constructed in 2011. For more information on the project refer to http://www.crwa.org/blue-cities/demonstration-projects/peabody-square

The Greenway Links project in Boston's South End
CRWA participated in the 2014 Greenway Links Design Charette, as part of the Greenway Links Initiative's invitation to develop design concepts that reimagine and complete missing links within Boston's existing greenway network. A variety of organizations and advocacy groups participated in the charrette, which sought to enhance Boston's urban core, specifically in the areas bordered by the Neponset, Mystic as well as Charles Rivers. The CRWA's proposal uniquely explored a water-centric urban design and planning strategy, promoting the use of green infrastructure techniques to filter stormwater runoff, proactively treating it before it enters adjacent waterways.

Focusing on the greenway connection between Carson Beach and Fort Point Channel, the ultimate vision was to employ these links as a means to restore the natural, local hydrology, increasing its resiliency towards climate change while also fostering pedestrian and bicycle circulation. The proposal was well received as the CRWA team was awarded Honorable Mentions for the "Most Implementable Short Term Plan" as well as "Best Presentation". For more information on the project refer to attachment A and http://blog.crwa.org/blog/using-crwas-blue-cities-approach-to-enhance-bostons-greenway-links

Boston Complete Streets
In 2009, the Boston Transportation Department (BTD) began an internal planning effort to reexamine and update roadway standards for all Boston streets. Their goal was to build on existing guidelines and projects, while introducing new dimensions for building streets such as sustainability principles, appropriate storm water drainage, more proactive accommodations for bicycles, integration of 'smart' technologies, and responsiveness to Boston's unique urban context.

Our work with BTD on the Peabody Square project was instrumental in involving CRWA with the City's Complete Street Initiative. In 2009, Boston Mayor Thomas Menino appointed CRWA's Kate Bowditch to serve on a technical advisory committee to inform the development of these city wide guidelines. The Complete Streets Guidelines were finally released in 2013, after three years of CRWA working in close coordination with the project team on its "green" section. For more information, see Attachment A and

http://bostoncompletestreets.org/projects/audubon-circle-fenway/
http://bostoncompletestreets.org/projects/central-square-east-boston/

In 2015 BTD launched the Boston Green Links Initiative that is a plan to connect residents in every neighborhood to Boston's greenway network. Boston Green Links is an initiative by the city to take a comprehensive look at the existing greenway network and proposed plans, identify gaps in the plans, and seek input on projects— new paths, new bike facilities, better crosswalks— to better connect people to the network.The vision is for a connected network of paths and low stress corridors that people of all ages and abilities can use to navigate the city, safely, sustainably and enjoyably, on foot, by bike, or in a wheelchair, from every neighborhood in Boston.

Boston Green Links is an action plan developed from a community-based vision for a connected network of greenways and Green Links, accessible to residents in every neighborhood. The plan includes projects in progress by the city and others, as well as new projects, and will be implemented over time, through projects and partnerships.
By advancing the design of two or three Green Links each year, the city will be prepared to seek grants and private funding, in addition to city resources, to carry out the vision.

The goals of Boston Green Links Initiative are:

- Provide people in every neighborhood safe, comfortable, car-free access to Boston's scenic natural environments (linear parks, rivers, beaches, coastlines, and urban wilds)
- Encourage healthy, active transportation by people of all ages and abilities
- Provide an alternative to driving or taking transit
- Reduce dependence on fossil fuels and associated greenhouse gas emissions

Project Information

1. Briefly describe the proposed project. Include a description of the site with a map and identify all property owners. If the applicant is not the sole property owner, please include letters of support from property owner(s).

CRWA, BTD and Livable Streets Alliance propose to design a Green Links pilot project in the Faneuil Brook sub-watershed in Brighton, MA. The goal of this project is to improve stormwater management as well as pedestrian and bike access, while connecting various open spaces/parks and other resources in the community through greener connections to the Charles River (Please refer to Attachment B, Open Space Plan).

Planning stormwater and transportation infrastructure improvements along priority streets and open space corridors in the neighborhood will create a whole host of benefits. Over the long-term future, we envision this progressing into a comprehensive "Green Links" project that connects the surrounding neighborhoods of Chestnut Hill Reservoir to the Charles River

and Herter Park. This will be achieved through the implementation of pedestrian and bike-friendly routes that employ green infrastructure strategies such as rain gardens, stormwater planters, tree pits and potentially porous pavement, based on site-specific suitability. Ultimately, this project would facilitate connections for local residents to the seamless network of public amenity greenways throughout the greater Boston Area, providing safe as well as scenic trails to the Charles River Paths, across the bridge to the Watertown greenway, and upon completion in 2016, through the Fresh Pond trail and the Minuteman Bikeway.

In this grant term, we propose to conduct a planning-level study for neighborhoods in the Faneuil Brook watershed (study area) to identify strategic locations for green infrastructure improvements and critical transportation links. (Please refer to Attachment B, for relevant maps of the study area). The intention within this is to directly engage community members throughout the planning process, with the result culminating in a pilot project that can be replicated within future grant cycles. Our evaluation will include an assessment of factors such as existing stormwater and transportation infrastructure, planned infrastructure improvements, land use and ownership, in addition to input from neighborhood residents as well as other stakeholders. As an outcome of this study, we will be able to recommend specific designs and sizes for green infrastructure improvements throughout the study area. We envision implementing a demonstration green infrastructure project on public property (public parks and/or schools) in the neighborhood, during the first year of this project and proposing additional phases of work in subsequent grant cycles to build on what we accomplish.

2. Describe public benefits of the project with reference to review criteria.

- Enhance the aesthetic quality and user experience of the public realm
    - Street and park greening projects add color and texture to the cityscape by replacing pavement and unused lawn space with flowering plants and trees that provide habitat for native birds and pollinating insects.
- Enhance public safety
    - Complete streets and "neighborway" projects designate travel lanes and specific routes for various modes of transportation and seek to calm traffic along pedestrian and cyclist routes.
- Enhance local business and economic activity
    - CRWA and BTD will engage Allston-Brighton businesses, institutions and main streets groups to assist with the planning and pilot implementation tasks such as building rain gardens, planting trees, creating signage, etc.
- Improve accessibility and connectivity for non-vehicular modes of transportation
    - The project seeks to improve connectivity in the area between Chestnut Hill Reservoir, the Charles River Reservation, and Fresh Pond. Elements of greenways, "neighborways" and complete streets will make this connection more accessible to pedestrians and cyclists.
- Promote community collaboration and civic and cultural growth

    - CRWA and BTD will seek input from the community on selecting priority sites for greening projects as well as the greening designs.
- Showcase unique qualities of the neighborhood
    - The project will use greening designs that fit the history and personality of the neighborhood and improve accessibility to existing public green spaces, such as Chestnut Hill Reservoir, Chandler Pond, Rogers Park, and the Charles River Reservation (Please refer to Attachment B, Green links opportunities map).

3. Explain why NIF funding is required.

NIF funding is required for this project because it is a collaborative effort that provides public benefits associated with multiple recreational spaces. No single organization could undertake this project alone, because it connects the facilities of the Massachusetts Department of Conservation and Recreation (DCR), the City of Boston Parks Department, Boston Public Works Department, and Boston Water and Sewer Commission. Consequently, no one organization would be able to achieve the full range of benefits of the project.

Furthermore, the Faneuil Brook watershed is in need of stormwater improvements in the more immediate future. These advancements will not only benefit the local watershed ecology, but they will also positively impact the quality of open space and public amenities for local residents through the restoration of natural systems. Additionally, DCR is dredging the sand bar in the Charles River this summer. To minimize the likelihood that the sand bar reforms and ensure that this effort is not undermined by future issues of sedimentation, it is critical to assess and improve stormwater management from this section of the Charles watershed.

4. Explain if this project/funding would be part of a larger phased project, and if NIF funding would be sought for future phases.

The pilot implementation proposed in this application is intended to be part of a larger neighborhood greening initiative that would include a street greening project similar to what was done for Everett Street in Allston (see Attachment A) and provide connectivity between greenspaces in the neighborhood.

5. Timeline (start date, end date, milestones).

Proposed start date: October 1, 2015
Proposed end date: September 30, 2016

Month	1	2	3	4	5	6	7	8	9	10	11	12
Task 1: Preliminary Planning and Outreach	x	x	x	x	x							

Task 2: Pilot Project Design					x	x	x	x				
Task 3: Pilot Implementation								x	x	x	x	
Task 4: Outreach & Education	x	x	x	x	x	x	x	x	x	x	x	x

6. Project maintenance requirements, protocols, and sources of funding.

The proposal intends to enlist participation at the grassroots level to aid in the long-term maintenance and care of these spaces. We seek to engage support and assistance from local neighborhood volunteer groups as well as schools, as a means to strengthen the education, participation and investment of the residents within their own community.

The project team currently does not have additional sources of funding for the proposed pilot project, but anticipate being able to identify future funding opportunities with the help of partners such as Boston Water and Sewer Commission, Boston Parks Department, Department of Conservation and Recreation, etc. to support subsequent phases of the project.

7. Anticipated project sustainability/life span

Like most transportation infrastructure and infrastructure in parks, the pilot implementation project and proposed future complete street greening project are anticipated to last decades, as long as they are appropriately maintained. Plantings should last about 10 years, and street improvements should last about 20 years. The project is intended to present a replicable model more in line with the overarching, sustainable vision for the area. Furthermore, the broader implications of this proposal are to provide local residents with a public amenity, reflecting the history of the Charles River Basin and its connection with other water features like Chestnut Hill Reservoir, Chandler Pond etc. and its inherent role within the city's social identity. The intent is to reiterate the interests of the Boston Green Links by providing Bostonians with alternative pedestrian transportation means, within a safe and leisurely, lush, scenic natural environment.

BOSTON

Martin J. Walsh, Mayor

June 12, 2015

Charles River Watershed Association
190 Park Road
Weston, MA 02493

Dear Ms. Mande,

The Boston Parks and Recreation Department supports the Brighton Greenway Links Pilot Project proposal by the Charles River Watershed Association. The proposed planning study will complement work already underway by the Boston Transportation Department and the Boston Water and Sewer Commission to assess green infrastructure opportunities and transportation links in this neighborhood. The planning study may recommend streetscape improvements which would require the review and approval by Boston Parks if those improvements include any trees or plantings to be maintained by the City. Similarly, the proposed project scope includes a demonstration project to be installed on public land, which could include property owned and managed by Boston Parks. Any proposed demonstration project would require review and approval by Boston Parks before moving forward, including a plan for ongoing maintenance. Boston Parks is supportive of this initial study and community engagement effort to bring attention to the value that green infrastructure can provide to the Brighton neighborhood. Should the CRWA receive this funding, Boston Parks will work with you to review proposed improvements.

Thank you for proposing this collaborative project.

Sincerely,

Liza Meyer

Liza Meyer, RLA
Chief Landscape Architect
Boston Parks and Recreation

Boston Parks and Recreation Department
1010 Massachusetts Avenue, Boston, MA 02118
www.cityofboston.gov/parks | Telephone: 617-635-4505 | Fax: 617-635-3173

Boston
Martin J. Walsh, Mayor

June 15, 2015

Boston College Allston-Brighton Task Force
Boston College Neighborhood Center
480 Washington Street
Brighton, MA 02135

Reference: Letter of Support
Brighton Green Links Project

Dear Members of the Allston-Brighton Task Force

The City of Boston Public Works Department submits this letter of support on behalf of the Charles River Watershed Authority (CWRA) and their Brighton Green Links Project. The Public Works Department supports the efforts of CWRA to provide and develop new techniques of green infrastructure in the Boston area with the goal of adoption by a host of city agencies.

The Public Works Department has recently teamed with CRWA for a grant with the Department of Environmental Planning for the design and construction of a porous alley in the South End neighborhood of Boston. Based on our relationship with CRWA on that project we are confident that the selection of the Brighton Green Links Project will be successful.

Sincerley,

Michael Dennehy,
Commissioner

PUBLIC WORKS DEPARTMENT / Boston City Hall / 1 City Hall Sq. Rm. 714, 02201-2024
Michael D. Dennehy, Interim Commissioner of Public Works
617-635-4900 Fax 617-635-7499

LivableStreets Rethinking urban transportation

June 15, 2015

Boston College Neighborhood Center
480 Washington St
Brighton, MA 02135

Dear Boston College Allston-Brighton Task Force,

LivableStreets Alliance is pleased to offer this letter in support of the Brighton Greenway Links pilot project. We can attest to the deep knowledge and expertise of Boston Transportation and Department and Charles River Watershed Association and are proud to be a partner in this proposed project.

Greenway Links – a key initiative of LivableStreets – advances the vision of a seamless 200-mile "emerald network" of multi-purpose greenways across Greater Boston, from the Mystic River to the Neponset River, to create an urban recreation and transportation linear park system connecting neighborhoods and greenspaces. We are building out this vision by supporting construction of key missing links in the network, especially those in areas such as Brighton that lack safe, attractive routes on foot on by bike. This project has the potential to simultaneously provide much-needed access to open space amenities for local residents while improving water quality in the Faneuil Brook Sub-watershed.

In addition to environmental benefits, this project can greatly increase recreational and transportation opportunities for families, young professionals, and college students, ultimately improving the competitiveness of the college and surrounding neighborhoods. Imagine that a Brighton family can walk along a safe, tree-lined path from the Chestnut Hill Reservoir, through local parks, to the Charles River Basin and Herter Park. A college student can bike from Brighton across to the Watertown-Cambridge Greenway (to be completed in 2016) and through to the Minuteman Bikeway, on a pleasant route free from car exhaust and dangerous intersections.

Thank for you for this opportunity to submit a proposal, we believe that its potential public space impacts could be felt for many years to come.

Sincerely,

Amber Christoffersen
Project Manager, Greenway Links
LivableStreets Alliance

June 10, 2015

Boston College Allston-Brighton Task Force
Boston College Neighborhood Center
480 Washington Street
Brighton, MA 02135

Dear Members of the Allston-Brighton Task Force:

Chandler Pond Preservation Society (CPPS) is pleased to offer this letter in support of Charles River Watershed Association (CRWA) and Boston Transportation Department's (BTD) Brighton Greenway Links pilot project.

Stormwater runoff is a major source of pollution for local waterbodies such as Chandler Pond and the Charles River. Chandler Pond is plagued by high levels of nitrogen and phosphorus pollution, which is delivered to the pond from the surrounding land area via storm water runoff. Every summer, these nutrients act as fertilizers, causing non-native invasive weeds overtake the pond and crowd out native plants that provide important habitat to the wildlife that lives in and around the pond. Chemical treatments have been used as a "band-aid" to curb invasive plant growth in the pond, but reducing nutrient loads in storm water would address the root of the problem. However, CPPS is a small, volunteer-driven non-profit organization, and needs outside assistance in order to make real progress on this front. We look forward to partnering with CRWA, BTD, and others to address storm water pollution in the Allston-Brighton area.

This project is an excellent approach to improving both storm water management as well as local recreational opportunities. It also provides the opportunity to promote an understanding of the relationship between impervious surfaces and local water resources among neighborhood residents. This work is directly in line with the mission of CPPS, which is "to restore, maintain, and preserve the character and historic quality of Chandler Pond and its watershed."

We are excited to realize the benefits this project will provide to the Allston-Brighton neighborhood, its public greenspaces, and the health of its waterways.

Sincerely,

Bill King

Bill King, member of the CPPS Monitoring Committee,
23 Greymere Rd, Brighton, MA 02135, Tel: 617-787-0165, email: bking32@aol.com,
and The Chandler Pond Preservation Society Board Members (www.chandlerpond.org)

Signature	Printed Name	Position in CPPS
Richard Wood	Richard Wood	Treasurer
Sandy Kilbride	Sandy Kilbride	Vice President
	J. ALEXANDER WAISFELDER	BOARD MEMBER
Diane Pansen	DIANE PANSEN	Secretary
Linda Mishkin	Linda Mishkin	President
Christine Stewart	CHRISTINE STEWART	FORMER PRESIDENT

Statement of CRWA's Qualifications

Charles River Watershed Association (CRWA) has worked closely with environmental regulators, municipal officials, and town residents to improve management of the Charles River and surrounding landscape for 50 years. CRWA uses science, law, planning and grassroots organizing to change the way in which water resources are managed at a variety of scales, and in a variety of settings. Our initiatives focus on water quality and quantity, restoring natural hydrology and streamflow, monitoring, fisheries restoration, and urban redevelopment. CRWA has evolved into one of the most influential watershed organizations in the country with our work now internationally recognized through the award of the International Riverprize in 2011. Our accomplished staff includes environmental scientists, an engineer, an urban designer and an attorney.

CRWA has a long history of collecting reliable water quality and quantity data. We recently updated our Water Quality and Flow Monitoring Quality Assurance Project Plan (QAPP), approved by U. S. EPA and MassDEP, in 2014. Our reputation is well-respected and the data we produce are valued in the local environmental regulatory community. We have conducted substantial monitoring as part of the development of the Upper/Middle Charles River Nutrient TMDL. As part of our volunteer water quality monitoring program, CRWA has also collected water quality data on the Charles River nearly every month since the summer of 1995; U.S. EPA uses these data to assign the annual water quality grade for the Lower Charles River Basin.

Staff Qualifications and Project Experience

Pallavi Mande directs CRWA's Blue Cities Initiative, which includes planning, design and the implementation of green infrastructure retrofit projects. Ms. Mande has more than 15 years of experience in urban design and environmental planning and has worked on inner city neighborhood revitalization in cities all over the U.S. Through our Blue Cities Initiative, CRWA has gained considerable experience with low impact development stormwater treatment practices, including rain gardens, porous pavements, stormwater tree pits and planters. Most recently, Ms. Mande served as project manager for Boston's Porous/Green Alley project, a porous pavement demonstration project in Boston's South End neighborhood.

Julie Wood, Director of Projects, is responsible for overseeing CRWA's numerous science, research, and modeling projects. Ms. Wood is experienced in water quality monitoring, wastewater and stormwater management, as well as grant management. She also coordinates CRWA's Smart Sewering and climate change adaptation programs.

Elisabeth Cianciola, Aquatic Scientist, will oversee and conduct all water quality monitoring and reporting. Ms. Cianciola oversees CRWA's Field Science Program and has considerable experience in water quality monitoring, developing monitoring plans, and training others in CRWA's approved monitoring protocols. She has also developed a variety of outreach materials and educational programs designed to educate students, property owners, and the general public in non-point source pollution and stormwater best management practices.

Alexandra Ash, Volunteer and Event Coordinator, manages and develops content, graphics and interactive media for CRWA's website including, e-communications, blogging and social media strategy. Ms. Ash will be providing support on the communication and outreach efforts on the project.

Resumes of key personnel are attached and below are examples of relevant projects.

Chelsea Creek Stormwater Improvements
This ongoing project funded by the Massachusetts Environmental Trust involves retrofitting a parking lot at the Mace Apartments, located directly adjacent to Mill Creek in Chelsea MA, with stormwater controls. CRWA worked with the City of Chelsea Department of Public Works and our consultant engineer, Horsley Witten Group, to design and construct three biofiltration systems to collect and treat stormwater from the street and parking lot prior to discharging it to Mill Creek. In addition to treating stormwater runoff, the project added greenspace and beauty to the area, reduced impervious cover, and consequently attracts people to this creek-side location. Construction was completed in September of 2014, and CRWA is currently conducting post-construction monitoring.

CRWA has monitored stormwater runoff from the parking lot and outflow from one of the biofilters using automated sampling equipment and has gained significant experience in deploying, maintaining, and utilizing the sampling equipment to collect water quality samples, continuously monitoring flow and in situ parameters, and measuring rainfall. As part of this project, CRWA developed standard operating procedures for automated sampling equipment and incorporated them into our QAPP. For more information on the project, refer to http://www.crwa.org/blue-cities/demonstration-projects/mace-apartments

Peabody Square Green Street Pilot
Green Streets are streets designed to incorporate innovative stormwater management techniques, including low impact development (LID) stormwater best management practices (BMPs), into the street right-of-way to collect and treat stormwater runoff that is generated from sidewalks, roadways, and other impervious surfaces. The City of Boston Environment Department (BED) and CRWA were awarded a 604(b) grant by the MassDEP in July, 2007 to undertake an innovative pilot project to assess the potential stormwater management and recharge benefits of a Green Street. BED and CRWA selected Peabody Square as a potential site for a pilot project and began work to assess the feasibility of including Green Street designs into an existing plan to redevelop the streetscape.

CRWA worked closely with the Boston Transportation Department (BTD), the Department of Public Works (DPW), and its consultant Nitsch Engineering Inc. to advance the Green Street design for Peabody Square based upon the results of our assessment and recommended best management practices (BMPs). CRWA participated in numerous meetings with representatives from BTD, DPW, BED, Boston Parks Department, and community organizations, including the St. Mark's Area Main Streets, throughout the design process and to discuss long-term maintenance. The design was completed in 2010, and the project was

constructed in 2011. Unfortunately, no funding was available for pre- and post-construction monitoring as part of the project, thus CRWA could not collect any data to document water quality benefits. For more information on the project refer to http://www.crwa.org/blue-cities/demonstration-projects/peabody-square

Everett Street Greening Demonstration Project

In February of 2008, CRWA was awarded an Urban Forestry Challenge Grant by Massachusetts Department of Conservation and Recreation (DCR) to develop the design for a Green Street demonstration project along a section of Everett Street in Allston. The project involved designing a system of green infrastructure that would maximize the use of street tree cover for stormwater interception as well as temperature and air quality improvement. This project was meant to create public awareness around the connection between green infrastructure, stormwater management, and, ultimately, water quality.

CRWA partnered with the Allston Brighton Community Development Corporation and coordinated with the Boston Urban Forestry Coalition (BUFC) to promote the various benefits of urban forestry, including community building, water quality improvements, and urban canopy enhancement. Further, by retrofitting a site that was originally 100% impervious with innovative low impact developments (LID) best management practices (BMPs), the project offers an opportunity for combining stormwater management goals, such as runoff reduction and water quality improvement, with community goals for landscape improvements and public education about green infrastructure. The project design was completed in December 2008, and the project was constructed in 2010. For more details on the project refer to: http://www.crwa.org/blue-cities/demonstration-projects/everett-street-pilot

Boston Porous Alley Demonstration Project

In 2012, CRWA was awarded a 319 grant from MassDEP to retrofit a section of an alley way in South Boston with porous asphalt. CRWA partnered with Boston Department of Public Works, Boston Groundwater Trust, and Vanasse Hangen Brustlin, Inc. to design and implement the retrofit. The project is situated along Alley 543 between West Canton and Holyoke Streets. The retrofit allows for increased area groundwater recharge and also filters stormwater naturally into the ground, rather than funneling polluted runoff into nearby receiving waterbodies. Construction was completed in September of 2014. CRWA is currently monitoring water levels in the storage reservoir under the pavement and testing water samples collected from several different storm events. For more details on the project refer to: http://www.crwa.org/blue-cities/demonstration-projects/porous-alley

The Greenway Links project in Boston's South End

CRWA participated in the 2014 Greenway Links Design Charette, as part of the Greenway Links Initiative's invitation to develop design concepts that reimagine and complete missing links within Boston's existing greenway network. A variety of architecture, landscape,

planning, environmental organizations and advocacy groups participated in the Initiative's charrette, which sought to enhance Boston's urban core, specifically in the areas bordered by the Neponset, Mystic as well as Charles Rivers. The CRWA's proposal uniquely explored a water-centric urban design and planning strategy, promoting the use of green infrastructure techniques to filter stormwater runoff, proactively treating it before it enters adjacent waterways.

Pallavi's team focused on the greenway connection between Carson Beach and Fort Point Channel, within the South End. The ultimate vision was to employ these links as a means to restore the natural, local hydrology while also increasing its resiliency towards climate change. This was done so using a two-phased approach, fostering pedestrian and bicycle circulation specifically between the Broadway T station, to John Moakley Park and the South Bay Harbor Trail. The proposal was well received as the CRWA team was awarded Honorable Mentions for the "Most Implementable Short Term Plan" as well as "Best Presentation". For more information on the project refer to attachment A and
http://blog.crwa.org/blog/using-crwas-blue-cities-approach-to-enhance-bostons-greenway-links

Boston Complete Streets (Audubon Circle and Central Square)
In 2009, the Boston Transportation Department (BTD) began an internal planning effort to reexamine and update roadway standards for all streets in Boston. Their goal was to build on existing guidelines and projects and introduce new dimensions for building streets such as sustainability principles, appropriate storm water drainage, a more proactive accommodation of bicycles, integration of 'smart' technologies, and responsiveness to Boston's unique urban context.

Our work with BTD on the Peabody Square project was instrumental in involving CRWA with the City's Complete Street Initiative. In 2009, Boston Mayor Thomas Menino appointed CRWA's Kate Bowditch, to serve on a technical advisory committee to inform the development of these city wide guidelines. The Complete Streets Guidelines were finally released in 2013, after three years of CRWA working in close coordination with the project team on its "green" section. For more information, see Attachment A and
http://bostoncompletestreets.org/projects/audubon-circle-fenway/
http://bostoncompletestreets.org/projects/central-square-east-boston/

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CRWA
Saving the Charles River since 1965

Blue Cities

Restoring the Urban Environment

What are Blue Cities?

As in most cities, metropolitan Boston's water cycle has been radically altered. Drinking water is piped in from 65 miles away, sewage is piped out to Deer Island Treatment Plant in Boston Harbor, streams are now buried and pavement prevents rainwater from seeping into the ground. These changes increase flooding and pollution, and impact groundwater levels. The loss of streams and floodplains parallels the region's loss of open space and green corridors. The best way to reduce water problems in urban areas is to design cities so that they mimic the way nature handles water.

Massachusetts receives about 45 inches of precipitation every year. In the natural environment, almost half of this rainfall filters into the ground, and nearly all the rest returns to the sky as water vapor. In cities, we have paved over the ground and cut down many of the trees that turn water into vapor. The result: well over 50 percent of the rain in a typical year quickly becomes polluted stormwater runoff. Developed areas are designed to collect and discard rain quickly, dumping runoff in rivers through storm drains. Bigger storms overwhelm the system, resulting in flooding and, depending on the infrastructure, combined sewer and sanitary sewer overflows.

The Waltham Watch Factory Lofts in Waltham, MA. Designed with CRWA Blue Cities concepts, this mixed-use development filters stormwater before it drains into the adjacent Charles River.

To make rain once again an asset that replenishes aquifers, and to reduce the pollution from stormwater and the risk of flooding from storm events, Charles River Watershed Association (CRWA) is working to reengineer urban land scapes to function more naturally. By designing natural green corridors and infrastructure that can soak up water and carry it slowly through the city, "Blue Cities" designs also enhance neighborhoods and connect existing open spaces.

-- over --

How It Works

Restoring urban greenscapes and natural hydrologic function is at the heart of CRWA's Blue Cities Initiative. Using historic maps as a starting point to understand how rainwater once functioned before urbanization, Blue Cities' analyses evaluate opportunities for restoration that work with, rather than against, natural hydrology. CRWA evaluates soil types, historic groundwater flow, and historic versus constructed drainage patterns. This information forms the basis for retrofitting buildings, streets and parking lots to capture and treat runoff, connect isolated greenspace, and create greenways – in effect, mimicking historic natural conditions. CRWA's work includes partnering with others to build and monitor our demonstration projects, modeling the potential impacts of large scale Blue Cities designs, and training other environmental advocates, local residents, and municipal officials. CRWA has begun to expand Blue Cities nationally, working with River Network and other partners, and we will be working in new cities and training new partners in the coming years.

About Charles River Watershed Association

Winner of the 2011 Thiess International River*prize* for the Charles River, CRWA is an environmental research and advocacy group founded in 1965. Dedicated to restoring and protecting the Charles River, we use the Charles as our laboratory to develop practical, cost-effective and sustainable solutions for restoring urban watershed health. Led by an executive director, our staff includes a hydrologist, engineer, environmental scientists, a planner, and an attorney.

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Site-Scale Demonstration Projects

Everett Street Greening Demonstration Project, Allston MA

Everett Street, one of the streets selected for design improvements in the Allston Brighton Green Street Guidelines, offered opportunities for green infrastructure adjacent to the German International School of Boston. CRWA designed and oversaw construction for a system of green infrastructure including rain gardens, permeable pavement and stormwater tree pits to improve site aesthetics and collect and treat stormwater runoff. Following the first phase of construction, CRWA worked with volunteers including elementary school students to plant a rain garden at the edge of the parking lot adjoining the school building. CRWA also organized the planting of trees on the school property. Volunteers from the school, Saint Anthony's Church, and community members helped dig holes, prepare the soil, and plant the trees. The new vegetation helps beautify the area, while providing shade and reducing summer temperatures, in addition to improving air quality. This demonstration project shows the community the connection between green infrastructure, stormwater management and ultimately water quality.

German School Students help plant in the rain garden trench created to treat stormwater runoff from the school parking lot

Rain gardens treat stormwater runoff from street and public plaza at Peabody Square in Dorchester

Peabody Square Green Street Pilot, Boston MA

Peabody Square, located in the Ashmont section of Dorchester, MA, is at the center of a vibrant commercial and residential urban neighborhood. Working with the City of Boston and its consultants, CRWA developed a Green Street design for Peabody Square which was built in 2011. This innovative pilot project includes a pedestrian plaza with porous pavers, a rain garden, and a stormwater trench to help manage stormwater. One of the most significant impacts of CRWA's outreach efforts and this partnership between CRWA and the City of Boston has been the incorporation of green street strategies into Boston's Complete Streets Design Guidelines.

-- over --

Blue Cities

Neighborhood-Scale Demonstration Projects

Subwatershed Plan for Broadway , Chelsea, MA

Chelsea, MA is an industrialized city on the Mystic River and the second most densely populated city in Massachusetts. CRWA collaborated with community members and organizations in Chelsea to develop plans for green infrastructure which will improve neighborhood health and aesthetics and reduce pollution in local waterways. Working with project partners Mystic River Watershed Association (MyRWA), Chelsea Collaborative, the City of Chelsea and the Massachusetts Area Planning Council, the project drew upon the expertise of each organization while perfecting new tools and models to manage stormwater and promote environmental restoration in a largely minority neighborhood struggling with disproportionate levels of pollution. The project empowered residents, Environmental Chelsea Organizers (ECO) youth, property owners and small businesses who participated in public meetings, mapping of existing conditions and design charettes. Using the ideas generated by the community, CRWA developed a plan with recommendations for incorporating green infrastructure along the Broadway corridor.

ECO youth present their survey findings at a public meeting hosted by the City to inform residents about the project

Allston residents and Green Space members participate in a design charrette organized for Everett Street

Allston Brighton Green Space Guidelines, Boston MA

In Allston Brighton, an urban neighborhood of Boston with many congested streets, CRWA worked with the Allston Brighton Community Development Corporation's (ABCDC) Green Space Advocates to develop the Green Street Guide for Allston Brighton for three pilot streets. The three streets chosen for this project each faced stormwater challenges and unsafe or limited bike and pedestrian access. Gathering community input through design charettes and workshops, CRWA and ABCDC developed a guidelines document outlining opportunities for green infrastructure retrofits, improved bike, pedestrian, and traffic access, and more public greenspaces. As they are implemented, these guidelines will create a healthier, greener neighborhood.

-- View the guidelines document at www.charlesriver.org/blue-cities/allston-brighton-green-streets-guide --

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SOUTH BOSTON GREENWAY LINKS

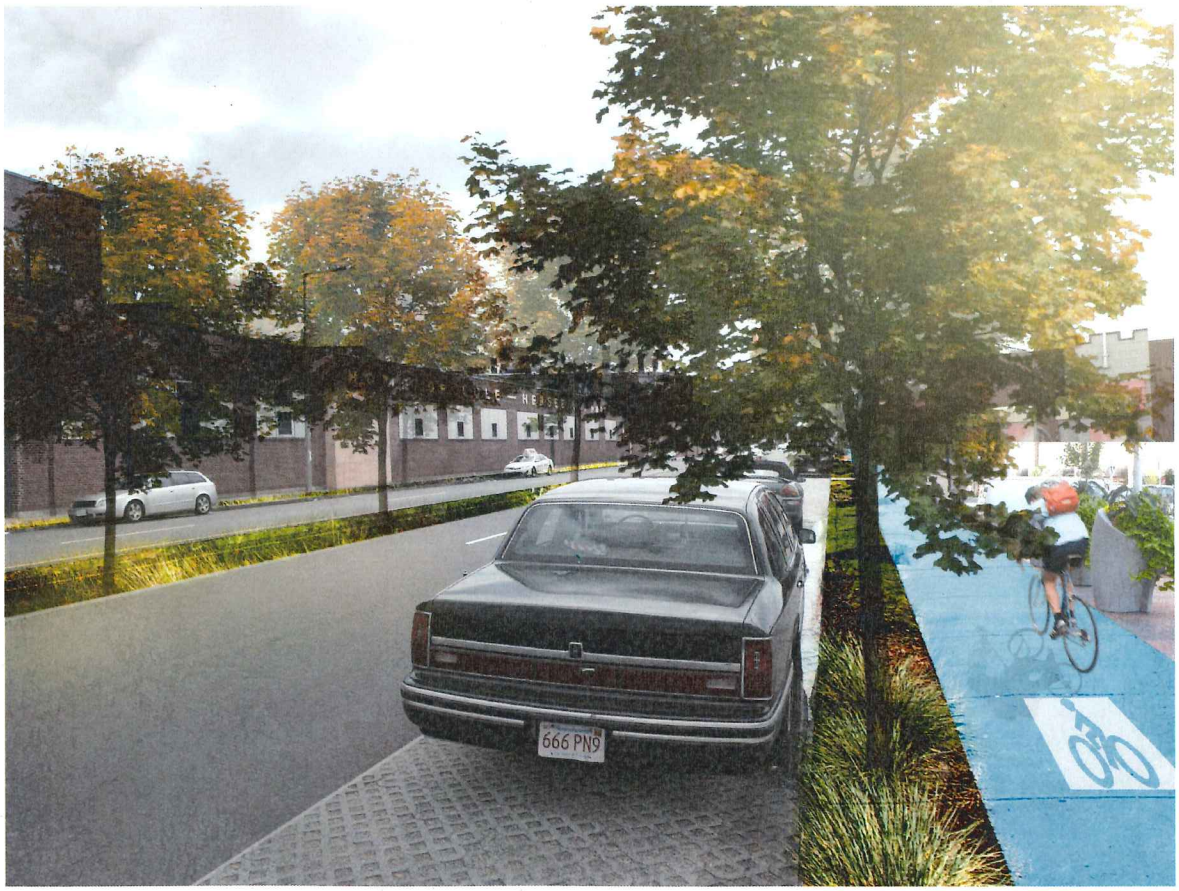
Project Overview

The South Boston Greenway Links design concept was predicated on the goal of restoring the area's natural hydrology, specifically in the area that was historically the South Bay. Along the South Bay Harbor Trail, Boston's South End can increase its resiliency to impacts resulting from climate change, specifically through daylighting sections of the Bass River, in addition to retrofitting streets as well as open spaces with green infrastructure. The design concept aims to establish both pedestrian and bicycle links in South Boston to establish safe urban circulation, connecting local and regional amenities, while also incorporating stormwater management and green infrastructure initiatives. The proposal connects two scales of activity and amenities:

Primary and direct: From Broadway T Station in the north, south along Dorchester Avenue and Old Colony Avenue, to John Moakley Park and The Harborwalk. Each endpoint can connect further still - north to Fort Point Channel and south to the proposed South Bay Harbor Trail and Neponset Greenway.

Secondary and local: From Orton Morrotta Way to Tudor Street, across to Dorchester Street to West 8th and West 5th, south to the Harborwalk. The proposed system connects residential areas, greenspaces, the Boys and Girls Club, and two low-income BHA housing properties. It will also guide tourists through historic neighborhoods to Dorchester Heights Park and the Harborwalk. This secondary and local system can potentially be expanded to the larger South Boston neighborhood.

Before and after scenarios for an alley



Before and after scenarios for greening Old Colony

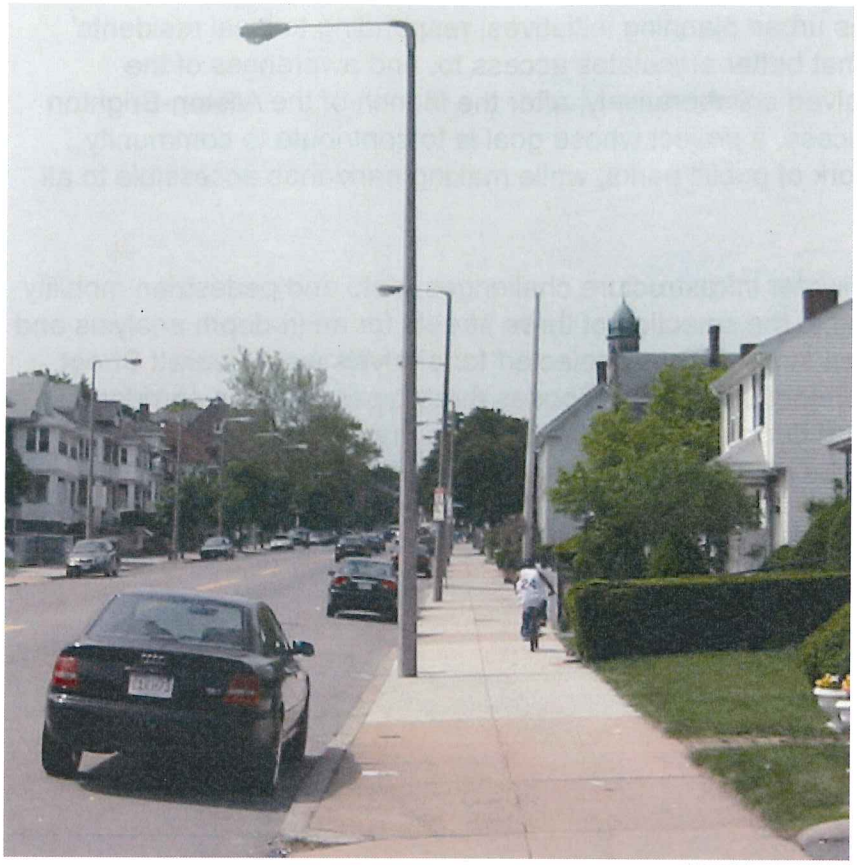
ALLSTON-BRIGHTON GREENWAY LINKS PILOT PROJECT

The project in Allston-Brighton embodies urban planning initiatives, responding to local residents' concerns for a neighborhood program that better articulates access to, and awareness of the area's open spaces and parks. This evolved collaboratively, after the launch of the Allston-Brighton Green Space Connections planning process, a project whose goal is to contribute to community revitalization by strengthening the network of public parks, while making parklands accessible to all modes of transportation.

A combination of factors including stormwater infrastructure challenges, auto and pedestrian mobility issues, as well as community interest led to the selection of three streets for an in-depth analysis and conceptual design development for green streets. Those selected for analysis were Everett Street, Market Street, and Brooks Street. The project ultimately proposes three types of green corridors: Urban Boulevards, Local Greenways, and Green Linkage Streets. This map forms the framework for planning and creating design guidelines on a street-by-street basis, benefitting the needs of the community and watershed alike.

Allston-Brighton Green Street Opportunities.

MARKET STREET



Before and after scenarios for greening Market Street.

BROOKS STREET

Before and after scenarios for greening Brooks Street with stormwater planters, porous sidewalks and bike lanes in section, looking at the Mass Pike underpass area.

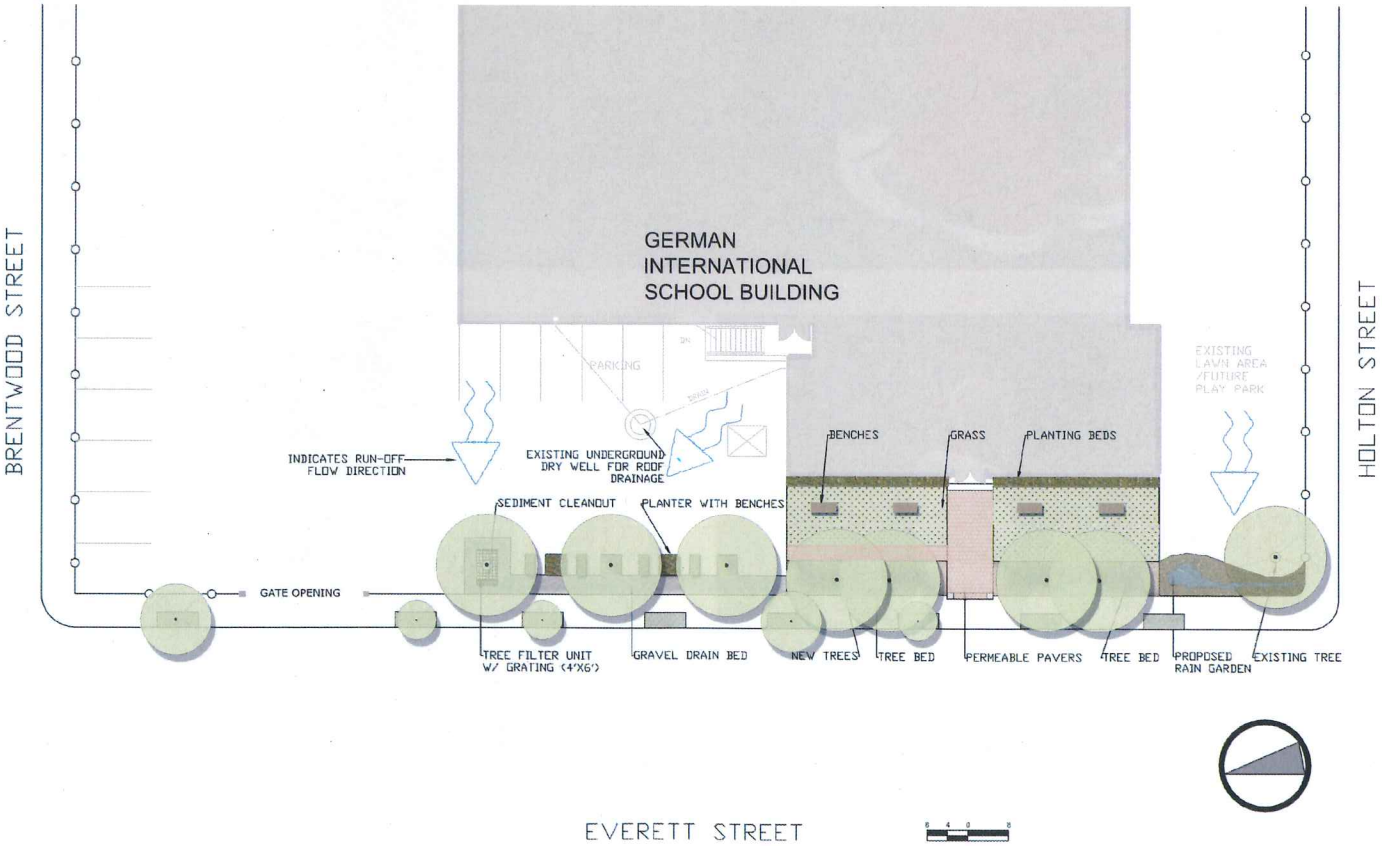
BRAINTREE STREET

Before and after scenarios for greening Braintree Street parking lot.

EVERETT STREET PILOT

The Everett Street Pilot demonstrates a project that embodies community outreach initiatives, in concert with the improvement of sustainable watershed management practices. This site was chosen primarily because it presented opportunities to transform a dreary asphalt parking lot into a thriving community space, while incorporating green infrastructure practices.

The project was implemented in two phases and involved replacing approximately 2,500 square feet of asphalt. The first phase involved installing a rain garden, permeable pavers, and a stormwater tree pit along with seven new trees along Everett Street. In the second phase of the project, a rain garden trench was installed along the corner of Everett and Brentwood Street to treat runoff from the school parking lot, before it flows into the Charles River. The project now offers an attractive landscape that creates a new green space for the community, while providing shade, reducing summer temperatures, improving air quality, and treating polluted runoff.



Project installation images.

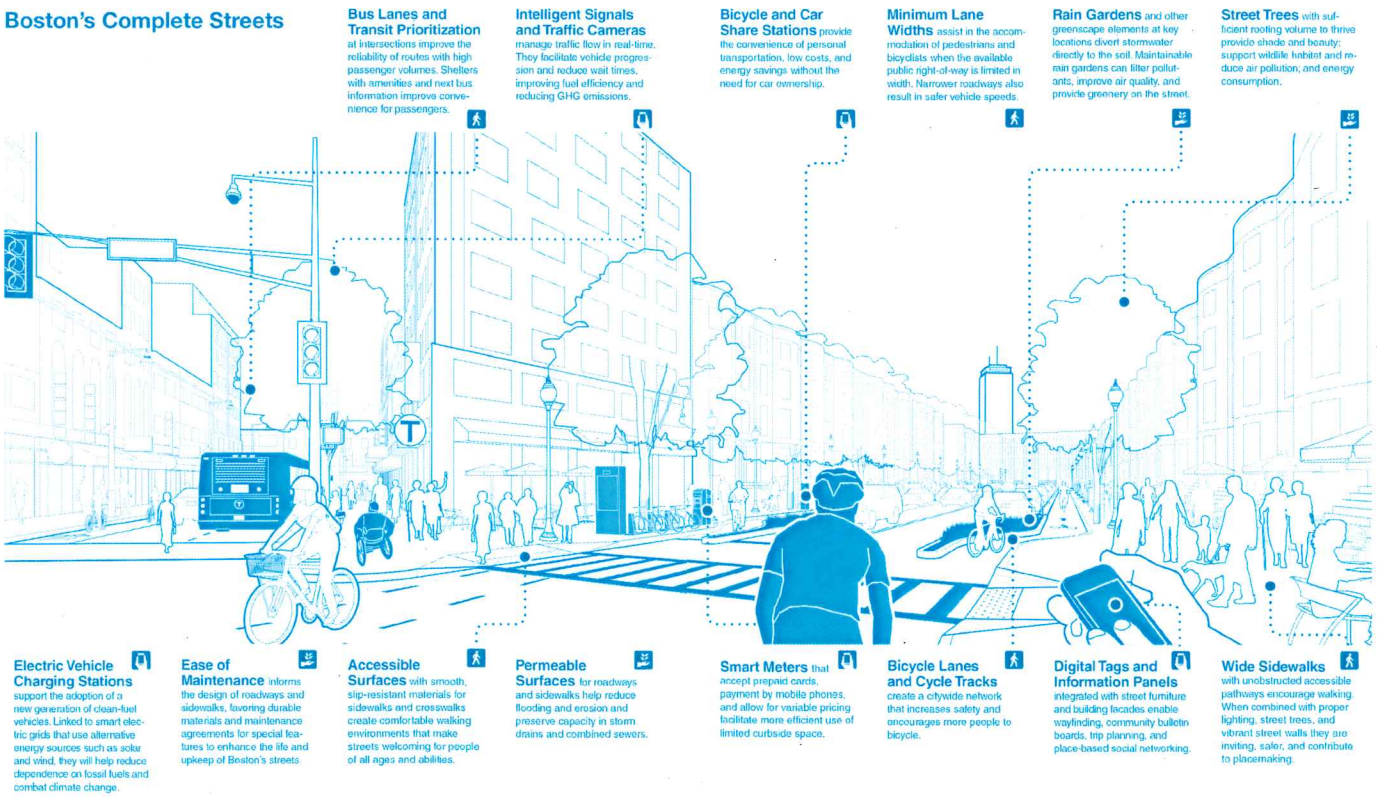
BOSTON COMPLETE STREETS

Project Overview

The CRWA participated in the Boston Transportation Department's initiative to reexamine the current roadway infrastructure within the city, with the intent of updating roadway standards. The work builds upon preexisting guidelines, strengthening them to include modern sustainable considerations in concert with more adequate pedestrian as well as bicycle circulation. Upgrades to East Boston's Central Square and Fenway's Audubon Circle embody the advancement of Boston's public space in consideration of the fundamentals put forth by the BTD.

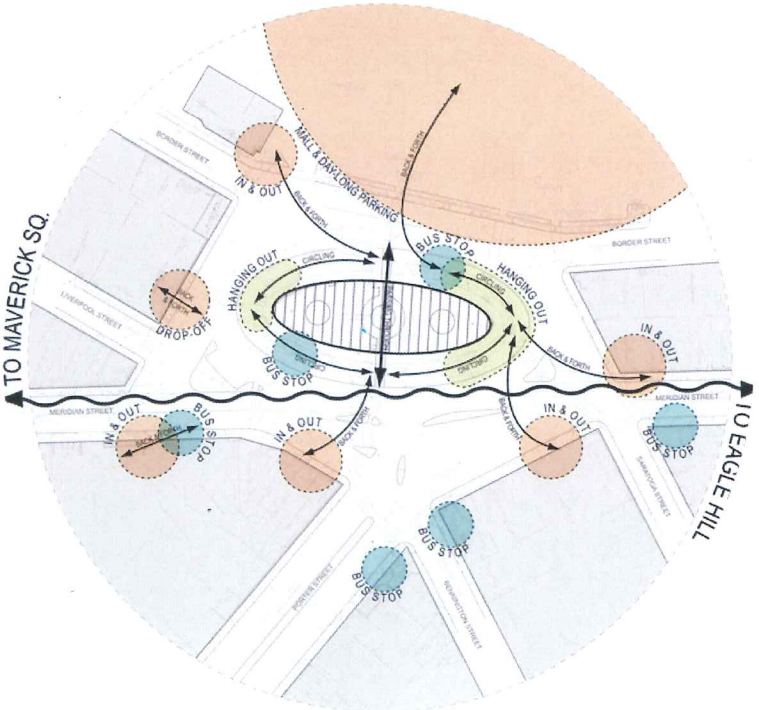
Central Square is located at the heart of East Boston. The origins of the urban fabric reflect its history of horse-drawn carriages, specifically with its ample pavement and relatively inaccessible central, oval-park. The redesign aims to improve pedestrian circulation and leisure through the addition of more greenery, the expansion of both the park and sidewalks. The project received $3.5 million in funding from the City of Boston, in support of the Boston Transportation Department.

Audubon Circle is located in Fenway, and situates itself as an important nexus for the Emerald Necklace. Recognizing its history of traffic collisions and speeding, the redesign aims to improve safety through traffic interventions. Furthermore, the design will conceptually reiterate the historic circle through street furniture and additional greenery. The project has received $5.5 million in funding from the City of Boston.

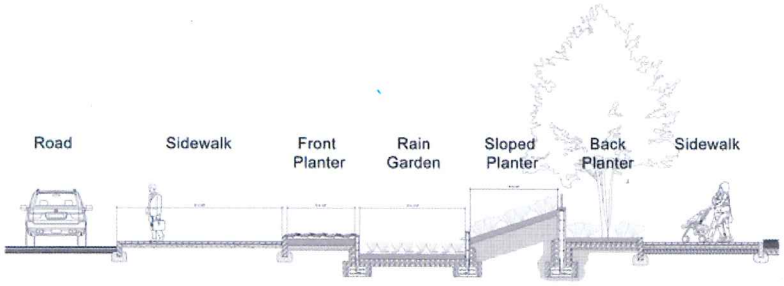


Source: Boston Complete Streets

CENTRAL SQUARE, EAST BOSTON



AUDUBON CIRCLE, FENWAY



Pallavi Kalia Mande

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EDUCATION

M.A.U.D Architecture and Urban Design, Washington University, St Louis, MO (2000)

M. Phil. Environment and Development, University of Cambridge, U.K. (1999)

Bachelor of Architecture, TVB School of Habitat Studies, New Delhi, India (1996)

EXPERIENCE

Charles River Watershed Association, Weston, Massachusetts

Director of Blue Cities, December 2011– present
Directing CRWA's *Blue Cities Initiative*, including program development, staff and budget management, grant writing and administration, outreach and communication, technical review and reporting. Responsibilities include design and environmental review of projects within the watershed to inform CRWA's advocacy; coordination with other environmental groups, agencies and departments; public education and outreach.

Urban Restoration Specialist, 2005 – 2011
Worked as an environmental planner and urban designer on a variety of restoration projects ranging in scale from regional to site specific, as part of CRWA's *Blue Cities Initiative*. In addition to reviewing development projects within the watershed, responsibilities included environmental and site assessments, zoning review, fieldwork, research on LID (low impact development), Smart Growth and Sustainable Development. Also involved with public education and outreach for generating awareness on urban restoration through organization of public forums involving a variety of stakeholders ranging from public agencies, institutions, private land owners/ developers and the resident community.

Cecil Group Inc., Boston, Massachusetts

Urban Designer and Environmental Planner 2004-2005
Worked with the Aquidneck Island Planning Commission and a large, multi-disciplinary team of planners, designers, engineers, and economists to create a comprehensive master plan for 10-mile stretch of densely populated coastal area along the west side of Aquidneck Island. The planning effort focused on resolving key growth issues and creating strategies for land use, transportation, economic development, sustainable growth, and the protection of natural and cultural resources. Worked with the Town of Mansfield as part of a team of market and environmental remediation experts on

remediation and site design for a 40-acre superfund site. Worked as a sub-consultant to the team contracted by the Executive Office of Environmental Affairs to produce the "MA Smart Growth Toolkit"

Stull and Lee Inc., Boston, Massachusetts

Urban Designer and Community Planner 2001-2004
Worked with various planning agencies and private developers in cities across the US (Boston, Cambridge, Somerville, Hartford (CT), Newark (NJ), Washington DC, Baltimore (MD), Prince Georges County (MD), Houston (TX), West Palm Beach (FL) to prepare master plans for urban and sub-urban communities. The effort largely involved visioning and strategic planning /design (land-use planning and public realm design) for inner city/ downtown revitalization projects while working with a team of economic development, housing and transportation consultants.

Development Alternatives, New Delhi, India

Project Coordinator: Environmental Resource Branch 1997-1998
Prepared a project proposal for the revitalization of natural drainage channels for a tributary to the River Yamuna in south Delhi as a pilot study for implementation. Assessed conservation and resource management projects in Khajuraho (Madhya Pradesh) through analysis of project environmental impact assessments and field trips.

PROFESSIONAL DEVELOPMENT AND RELATED EXPERIENCE

- Brookline Conservation Commission (December 2013-Present)
- Lectured at Massachusetts Institute of Technology (Water Landscape and Urban Design Workshop, Fall 2012 and 2013; Site and Environmental Systems Planning Course at Department of Urban Studies and Planning, 2011), Northeastern University (Course in Sustainable Development at Department of Global Studies, 2011) and Harvard Graduate School of Design (Career Discovery Program, 2008)
- Presented at numerous conferences including NEWEA (2014), EPA Community Involvement (2014), the Cities of the Future (2010), Urban River Restoration (2010), Build Boston (2010) Rail-volution (2009), River Rally (2005)
- Guest Critic at Boston Architectural Center (Spring 2010, 2008 and 2005)
- Taught a session on planning in Foundations of Urban Ecology- A workshop organized by Urban Ecology Institute, Boston College (July 2005)
- Guest Critic at Harvard Graduate School of Design (Spring 2004)
- Contributed to Urban Watershed Management Roundtable organized by Ecological Cities Project, University of Massachusetts, Amherst (May 2003)
- Contributed to Environmental Justice Fundamentals Workshop organized by EOEA, Massachusetts Watershed Initiative, Mystic River Watershed Association, Tufts University, USEPA (New England) and U.E.I (2003)
- Completed an Executive Education Course in "Sustainable Development" at the Harvard Extension School (Fall 2002)
- Taught a course in Habitat Survey and Design to 3rd Year undergraduates at TVB School of Habitat Studies. (Fall 1998)

Elisabeth Cianciola

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EDUCATION

M.S. Natural Resources, University of New Hampshire, Durham, NH (2014)

B.S. Environmental Science, Trinity College, Hartford, CT (2010)

EXPERIENCE

Aquatic Scientist, Charles River Watershed Association, Weston, MA
June, 2014- present
Manages staffing, data collection and analysis, and reporting for field science programs. These include volunteer water quality sampling, benthic macroinvertebrate sampling, cyanobacteria monitoring, BMP performance monitoring, and invasive aquatic plant control.

Graduate Teaching Assistant, University of New Hampshire, Durham, NH
August, 2012-May, 2014
Assisted with teaching and field equipment maintenance for all laboratory sessions of Wetland Ecology and Management course. Prepared and delivered all lessons and graded all assignments for Freshwater Resources course.

Analyst, The Cadmus Group, Inc., Waltham, MA
August, 2010-August, 2012
Provided support to U.S. EPA's Office of Wetlands, Oceans, and Watersheds' healthy watersheds, recovery potential screening, and nutrient criteria initiatives. Skills most commonly used included spatial analysis in ArcGIS, technical writing, internet research, and taking meeting notes. Assisted in preparing responses to Requests for Proposals, contract progress reports, and Quality Assurance Project Plans.

Interim River Steward, Connecticut River Watershed Council, Middletown, CT
August, 2009-April, 2010
Coordinated volunteer groups and represented the Council before partner agencies and at public hearings.

Undergraduate Teaching Assistant, Trinity College, Hartford, CT
September, 2007-December, 2009
Assisted with field and laboratory equipment maintenance and grading assignments for the following courses: Environmental Science, Ecology, and Botany.

PUBLICATIONS

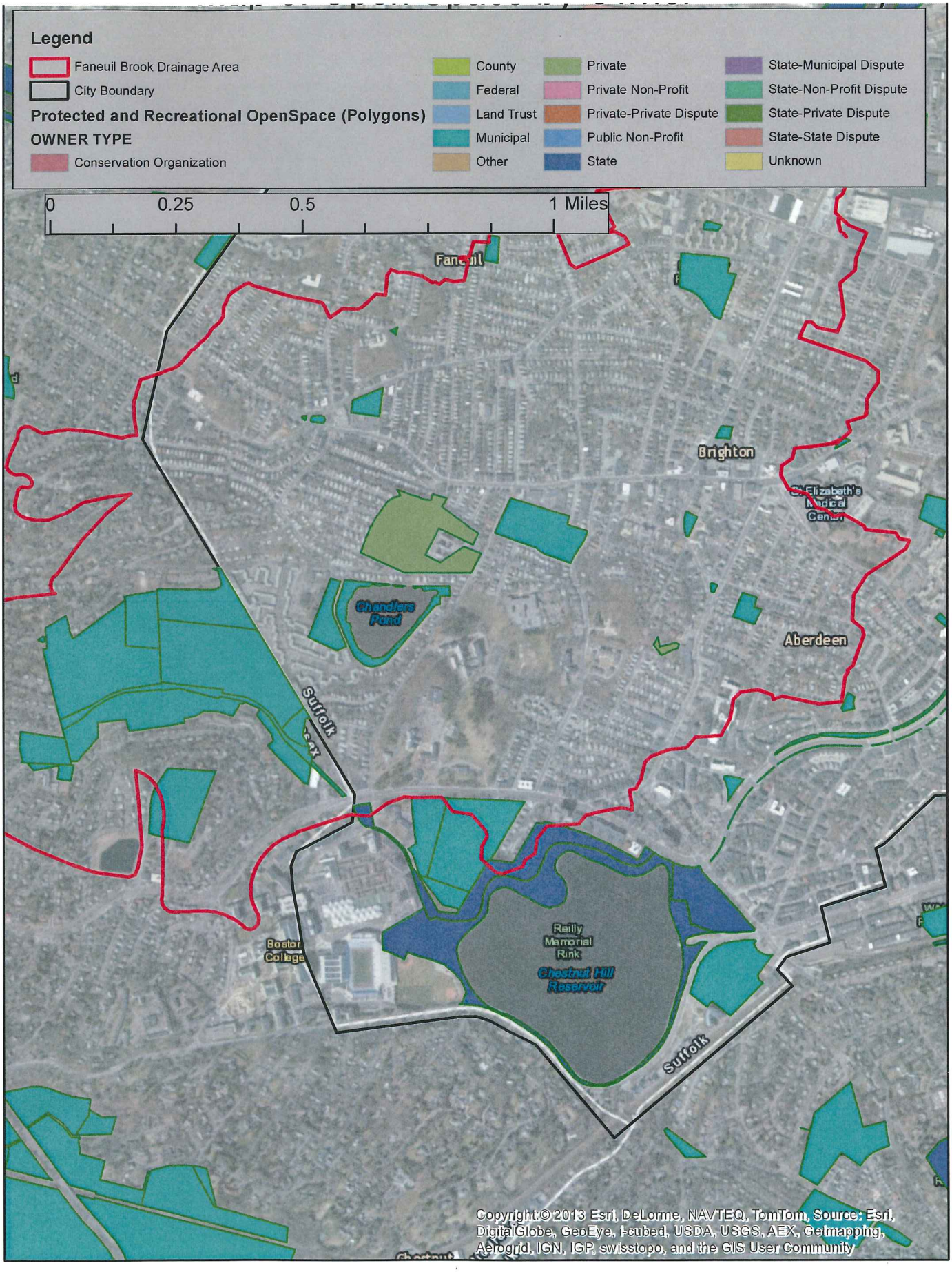
Schneider, C., E. Cianciola, T. Popolizio, D. Spagnuolo, and C. Lane. A molecular-assisted alpha taxonomic study of the genus *Centroceras* (Ceramiaceae, Rhodophyta) in Bermuda reveals *C. arcii* and *C. illaqueans* spp. nov. *Algae*

Cianciola, E.; T. Popolizio; C. Schneider; and C. Lane. Using molecular-assisted alpha taxonomy to better understand red algal biodiversity in Bermuda. *Diversity* 2010, 2, 946-958.

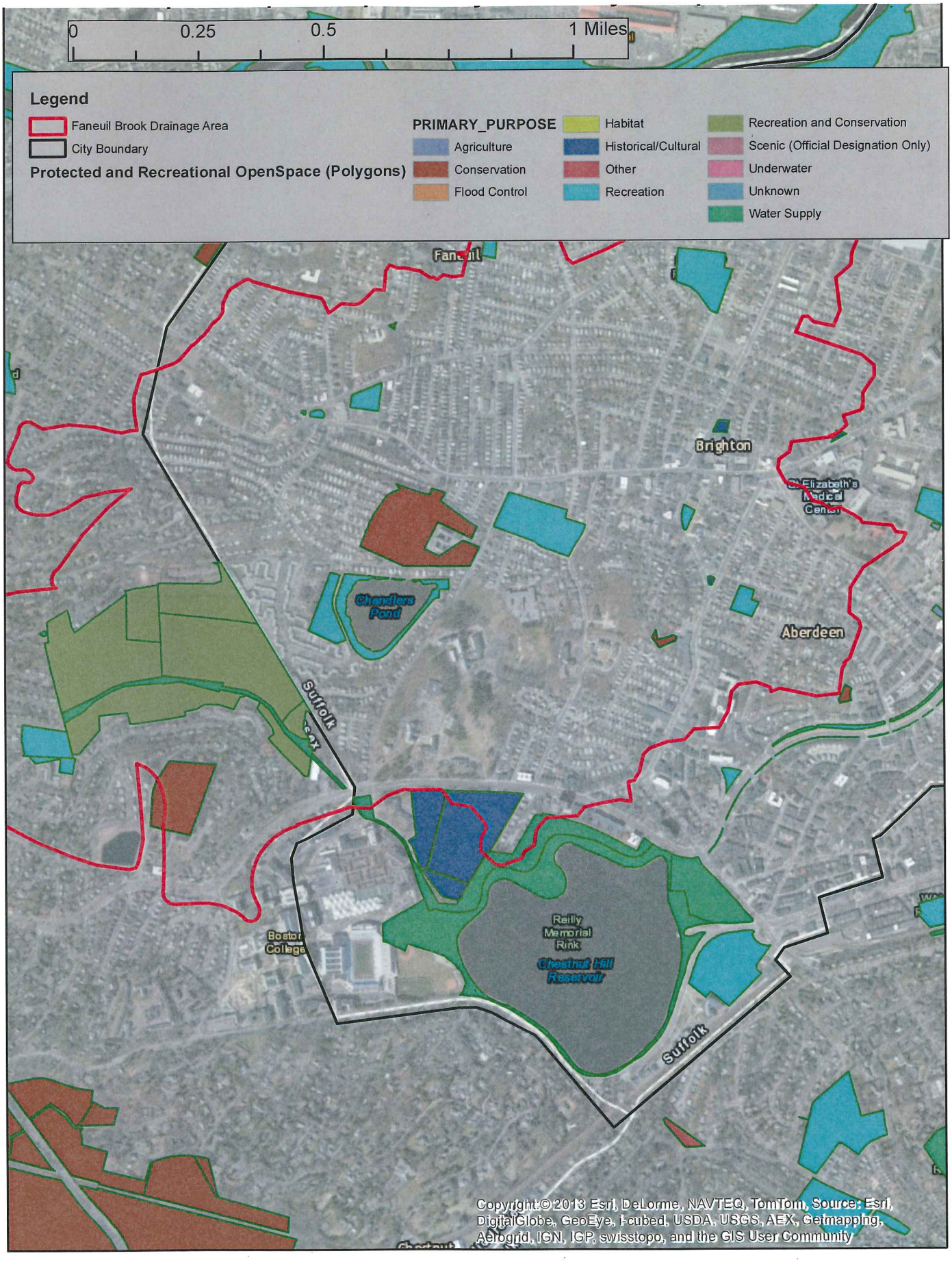
Morse, N., P. Pellissier, E. Cianciola, R. Brereton, M. Sullivan, N. Shonka, T. Wheeler, and W. McDowell. Novel ecosystems in the anthropocene: A revision of the novel ecosystem concept for pragmatic applications. *Ecology and Society*. Article pending publication.

ATTACHMENT B: BRIGHTON OPEN SPACE PLAN

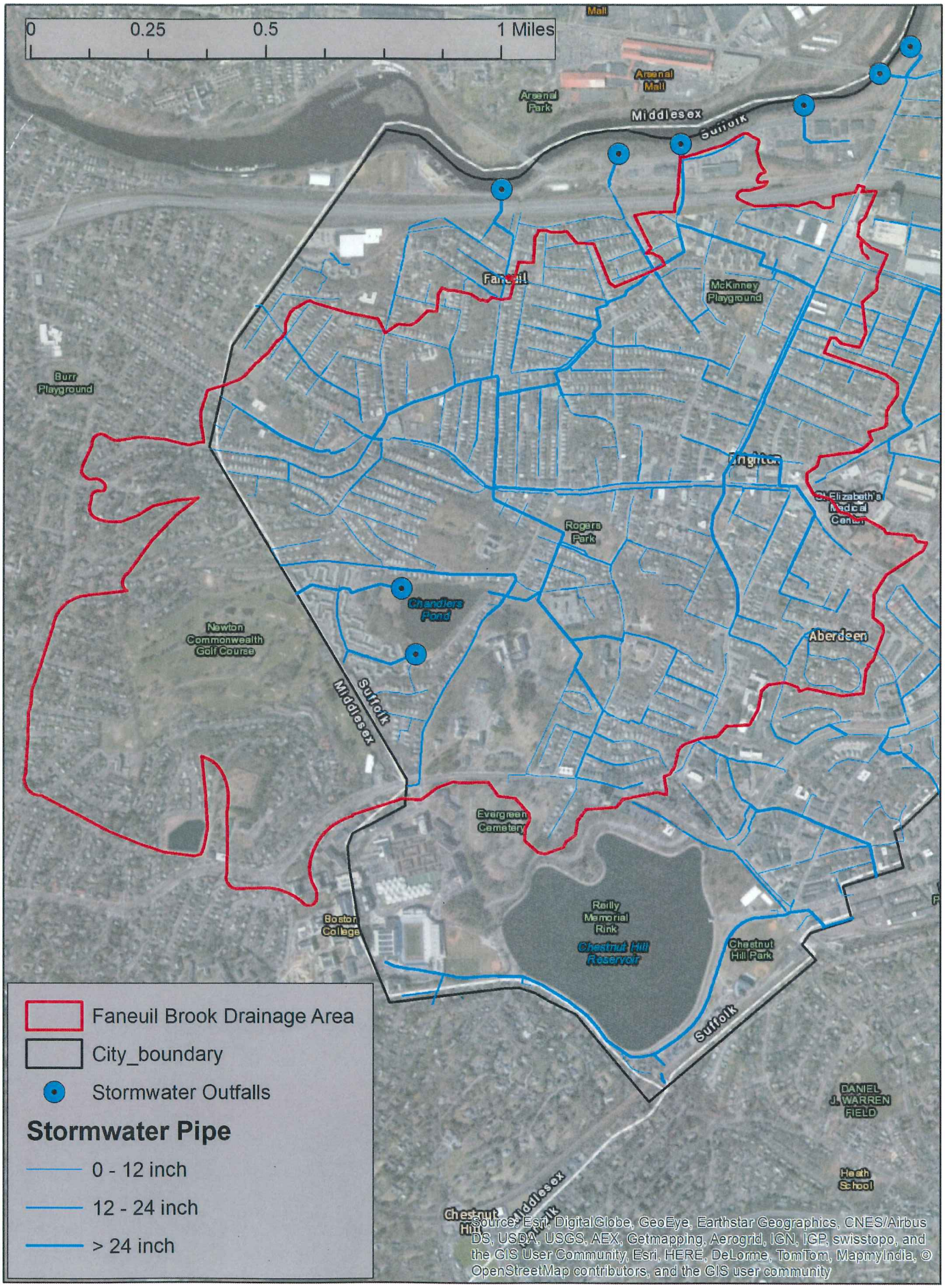
ATTACHMENT B: BRIGHTON OPEN SPACE PLAN BY OWNER



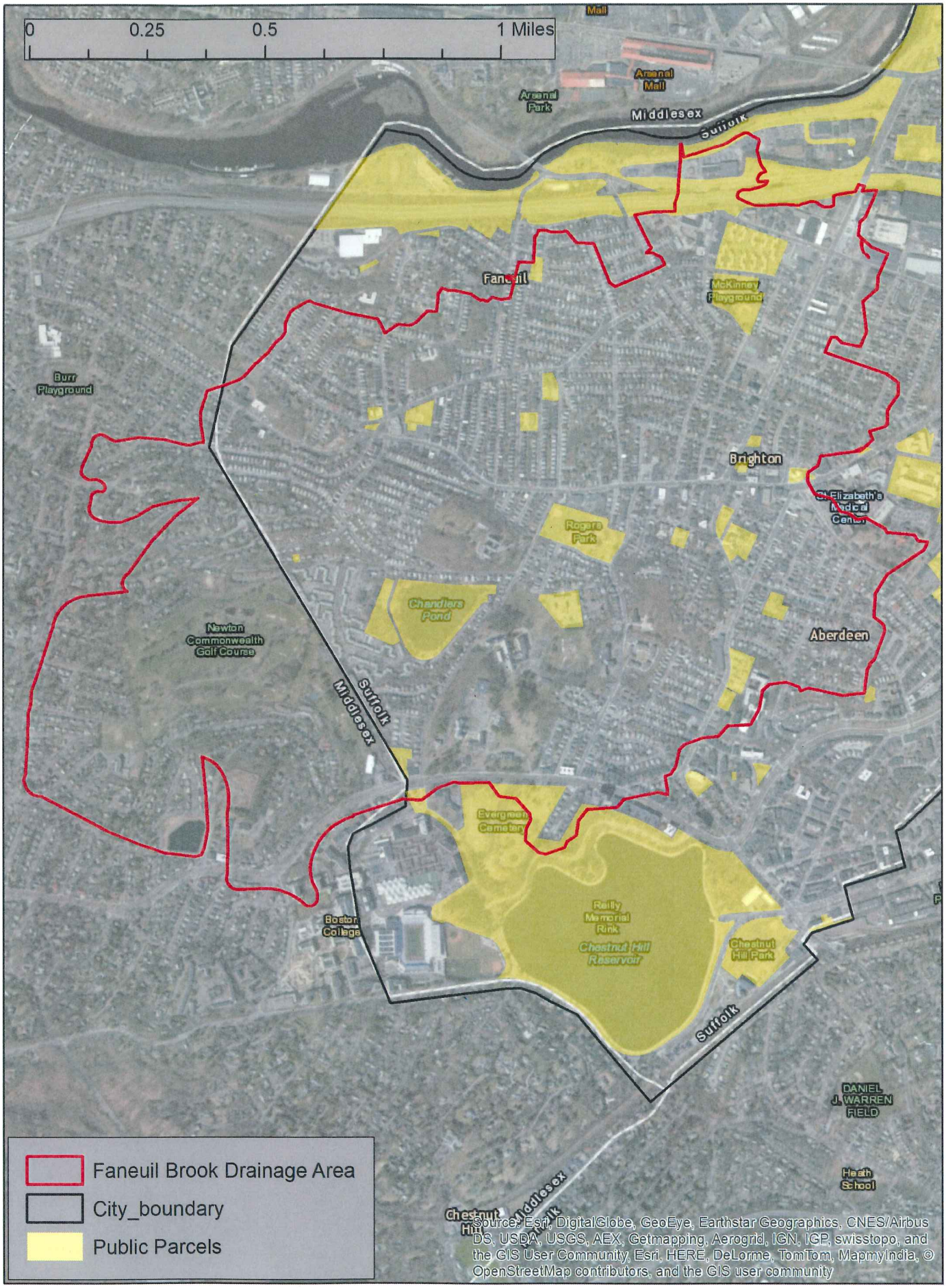
ATTACHMENT B: BRIGHTON OPEN SPACE PLAN BY PRIMARY PURPOSE



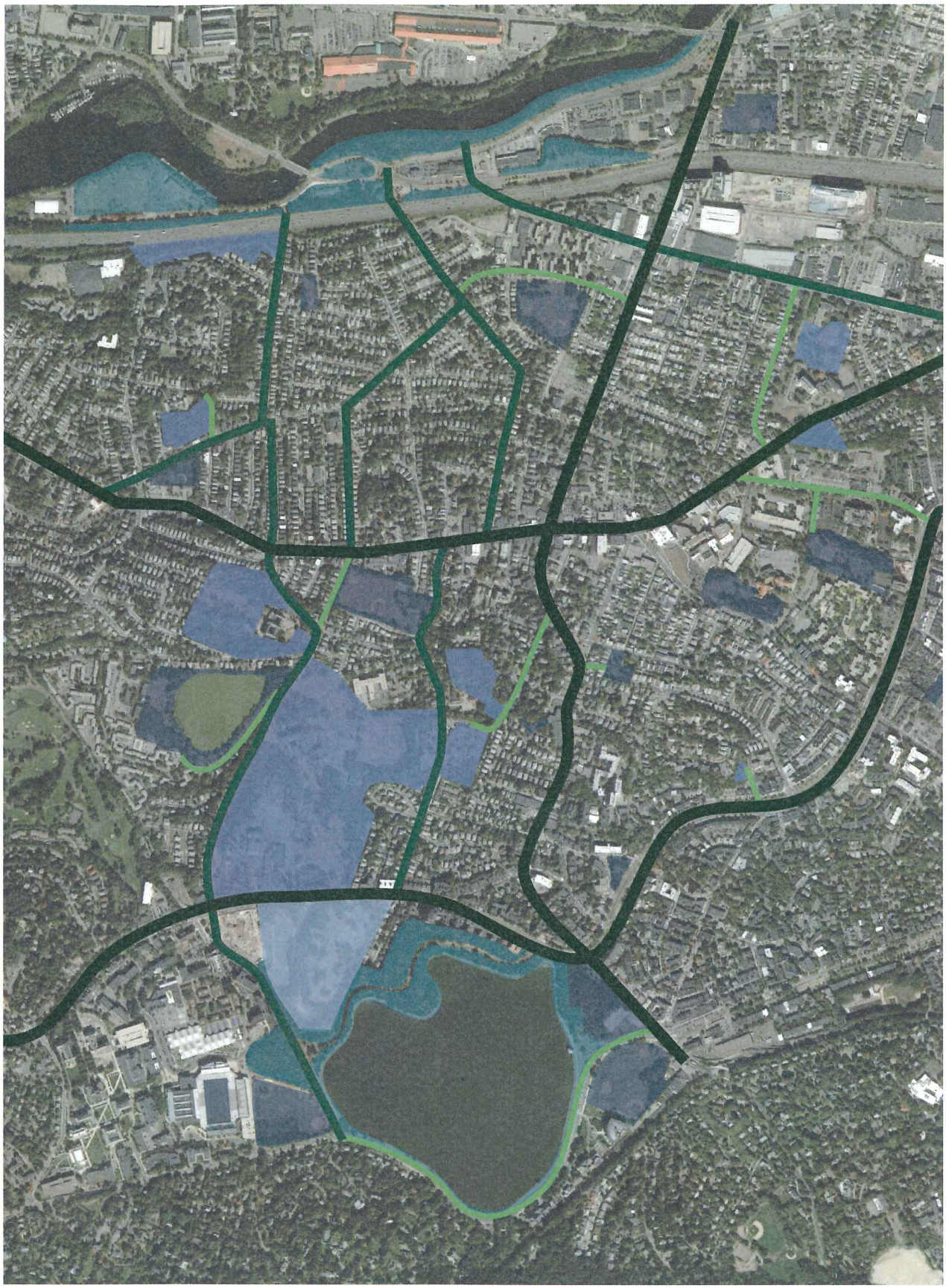
ATTACHMENT B: BRIGHTON PIPE INFRASTRUCTURE PLAN



ATTACHMENT B: BRIGHTON PUBLIC PARCELS PLAN



ATTACHMENT B: BRIGHTON GREEN STREET OPPORTUNITIES



Greenway Links in the Urban Core - Vision Map

The Green Routes Initiative

The Green Routes Initiative strives to build a mixed-use network of linear parks and green streets to connect and expand the existing greenways in the inner core of the Boston region. By widening and improving existing paths, constructing new paths and cycle tracks, and enhancing neighborhood streets with a dense tree canopy and expanded storm water management systems, the Green Routes Network will enhance the livability and sustainability of the region. Building on the natural beauty of the rivers and harbor, the legacy of Olmsted, the foresight of the Southwest Corridor, and recently completed trails, this network will link the Neponset, the Charles, and the Mystic for transportation or recreation by people on foot or with a set of self-powered wheels. Whether for people walking, running, pushing strollers, skating, or cycling, and for every age of resident and visitor, the Green Routes Network will help them to link to places along a beautiful series of linear parks.

Map Overview

This vision map shows the full build-out of the proposed Green Routes Network. It does not capture every good idea in the area but rather shows an intuitive set of loops and lines in Boston and adjacent communities that have the potential to meet the high standards of greenways and greenlinks. The nearly 200 miles depicted are only the core of a much broader regional network to be planned and expanded in the years ahead.

What is a "Greenway"?

Greenways form a multi-use linear park system. A greenway is a protected route or shared use path, or pair of bicycle and pedestrian paths, that runs through or along a parkland or waterfront. Some of these parks are narrow linear parks within historic rail right-of-ways or along the edge of a river, while others are within larger park areas or in former industrial areas. All of the greenways are designed especially for non-motorized travel. Depending on their location, they may be used primarily for recreation or for transportation, but all of them will provide a safe and comfortable trip for users of all ability levels.

What constitutes a "Greenlink"?

The greenlinks tie the greenways together and expands on them to create an interconnected network of green routes. A greenlink could take one of several forms. It may be a tree-lined historic parkway where space is taken from the median, carriageway, or a lane diet to create a protected space for cyclists and pedestrians. It may be a quiet street which receives additional traffic calming measures and plantings to enhance its value in the green route network. In order to connect the network, additional tree-lined streets may get cycle tracks or similar protected facilities; however, not every street with a cycle track will be added to the Green Routes Network.

Greenway Links in the Urban Core - Segment Status Map

Green Routes Evaluation

STATUS: Where is this segment in the concept to construction phase?
- 4 - Existing or Under Construction
- 3 - Funded
- 2 - Designed, includes planned projects and purchased right-of-way
- 1 - Proposed, by outside organization or this initiative

VALUE: What is the value of this segment to the core Green Routes network?
- 3 - High, includes waterside paths except wharves
- 2 - Medium, supplements a "high" route
- 1 - Low, destinations and interior loops or alternatives to a direct route

TECHNICAL FEASIBILITY: How challenging will it be to incorporate this into the network given the segment's current condition?
- 4 - Fine as it is
- 3 - Requires minor upgrades
- 2 - Needs work to be incorporated into the network
- 1 - Requires major work

- Segments Targeted for Gap Closure (17)
- Focus Project Candidate - Segment for Monitor and Support (11)
- Focus Project Candidate - Segment for Adoption (20)